

AMENDMENTS TO THE CLAIMS

Listing of Claims:

1. (Currently amended) A process for preparing transformed plant cells or plant organisms, comprising:

a) transforming providing a population of plant cells, the cells of said population containing at least one marker protein causing a toxic effect directly or indirectly for said population,

b) transforming said population of plant cells with at least one nucleic acid sequence inserted in combination with and

i) at least one double-stranded marker protein ribonucleic acid sequence, or

ii) an expression cassette or expression cassettes for expressing said at least one double-stranded marker protein ribonucleic acid sequence,

wherein the at least one double-stranded marker protein ribonucleic acid sequence or the expression cassette reduces the expression of the at least one marker protein in the plant cells, and

wherein the at least one marker protein converts directly or indirectly a substance X which is nontoxic for said population of plant cells into a substance Y which is toxic for said population,

b) c) treating the transformed population of plant cells obtained in step a) b) with [[a]] the substance X at a concentration which causes a toxic effect for nontransformed cells[[,]] due to the conversion by the at least one marker protein,

and

e) d) selecting transformed plant cells whose genome contains said inserted at least one nucleic acid sequence and which have a growth advantage over nontransformed cells at said concentration of substance X, and optionally

e) regenerating a plant organism from the transformed plant cell.

2. (Cancelled)

3. (Currently amended) The process as claimed in claim 1, wherein the nontoxic substance X is a substance which does not naturally occur in plant cells or plant organisms or occurs naturally therein only at a concentration which can essentially not cause any toxic effect.
4. (Previously presented) The process as claimed in claim 1 or 3, wherein the substance X is a 5-fluorocytosine.
5. (Currently amended) The process as claimed in claim 1, wherein the at least one marker protein is a cytosine deaminase.
6. (Currently amended) The process as claimed in claim 1, wherein the at least one marker protein comprises a polypeptide encoded by [[a]] the sequence according to SEQ ID NO: 1[[;]], or a polypeptide comprising the sequence according to SEQ ID NO: 2.
7. (Currently amended) The process as claimed in claim 1, wherein a sequence coding for a polypeptide conferring resistance to at least one toxin, antibiotic or herbicide is introduced together with the at least one nucleic acid sequence to be inserted and selection is carried out additionally using the toxin, antibiotic or herbicide.
8. (Currently amended) The process as claimed in claim 1, wherein the at least one nucleic acid sequence to be inserted into the genome ~~of the plant cell or of the plant organism~~ comprises at least one expression cassette capable of expressing, under the control of a promoter functional in plant cells or in plant organisms, an RNA and/or a protein which does not cause the expression, amount, activity and/or function of [[a]] the at least one marker protein to be reduced.
9. (Previously presented) The process as claimed in claim 1, wherein the plant cell is part of a plant organism or of a tissue, part, organ, cell culture or propagation material derived therefrom.
10. (Currently amended) The process as claimed in claim 1, wherein the at least one marker protein is ~~at least one a non-endogenous marker protein which converts directly or indirectly a substance X which is nontoxic for said population of plant cells into a substance Y which is toxic for said population, and~~ wherein the expression of the at least one marker protein is the expression, amount, activity and/or function of said at least one marker protein, ~~and wherein the~~

selecting is selecting transformed plant cells and/or populations of plant cells, the process further comprising:

d) f) regenerating fertile plants, and

e) g) eliminating by crossing the nucleic acid sequence coding for the marker protein by crossing and isolating fertile plants whose genome contains the inserted at least one nucleic acid sequence but does not contain any longer the sequence coding for the marker protein.

11-20. (Cancelled)

21. (Currently amended) The process as claimed in claim 4, wherein the at least one marker protein is a cytosine deaminase.

22. (Currently amended) The process as claimed in claim 21, wherein the at least one marker protein comprises a polypeptide encoded by [[a]] the sequence according to SEQ ID NO: 1[[;]], or a polypeptide comprising the sequence according to SEQ ID NO: 2.

23. (Currently amended) The process as claimed in claim 10, wherein the at least one marker protein is a cytosine deaminase.

24. (Currently amended) The process as claimed in claim 23, wherein the at least one marker protein comprises a polypeptide encoded by [[a]] the sequence according to SEQ ID NO: 1[[;]], or a polypeptide comprising the sequence according to SEQ ID NO: 2.

25. (Currently amended) The process as claimed in claim 10 or 3, wherein the at least one nucleic acid sequence to be inserted into the genome of the plant cell or of the plant organism comprises at least one expression cassette capable of expressing, under the control of a promoter functional in plant cells or in plant organisms, an RNA and/or a protein which does not cause the expression, amount, activity and/or function of [[a]] the at least one marker protein to be reduced.

26. (Currently amended) The process as claimed in claim 3, wherein the at least one marker protein is a non-endogenous marker protein, and wherein the expression of the at least one marker protein is the expression, amount, activity and/or function of said at least one marker protein, and wherein the selecting transformed plant cells is selecting transformed plant cells and/or populations of plant cells according to step e), the process further comprising:

d) f regenerating fertile plants, and

e) g) eliminating by crossing the nucleic acid sequence coding for the marker protein by crossing and isolating fertile plants whose genome contains the inserted at least one nucleic acid sequence but ~~does not contain any longer~~ the sequence coding for the marker protein.

27-31. (Cancelled)

32. (Currently amended) The process of claim 1, wherein the at least one marker protein is

- a) a cytosine deaminase which converts directly or indirectly a 5-fluorocytosine;
- b) a cytochrome P-450 enzyme which converts directly or indirectly a proherbicide;
- c) an indoleacetic acid hydrolase which converts directly or indirectly an auxin amide compound or a naphthaleneacetamide;
- d) a haloalkane dehalogenase which converts directly or indirectly a dihaloalkane;
- e) a thymidine kinase which converts directly or indirectly Acyclovir, Ganciclovir, or 1,2-deoxy-2-fluoro- β -D-arabinofuranosil-5-iodouracil;
- f) a guanine phosphoribosyl transferase, a hypoxanthine phosphoribosyl transferase, or a xanthine guanine phosphoribosyl transferase which converts directly or indirectly a 6-thioxanthine or an allopurinol;
- g) a purine nucleoside phosphorylase which converts directly or indirectly a 6-methylpurine deoxyribonucleoside;
- h) a phosphonate monoester hydrolase which converts directly or indirectly a glycerylglyphosate;
- i) an indoleacetamide synthase and an indoleacetamide hydrolase which convert directly or indirectly an indolacetamide;
- j) an indoleacetamide hydrolase which converts directly or indirectly a naphthaleneacetamide;
- k) an adenine phosphoribosyl transferase which converts directly or indirectly a 4-aminopyrazolopyrimidine;

- l) a methoxinine dehydrogenase or a rhizobitoxin synthase which converts directly or indirectly a 2-amino-4-methoxybutanoic acid;
- m) a 5-methylthioribose kinase which converts directly or indirectly a 5-(trifluoromethyl)thioribose; or
- n) an alcohol dehydrogenase which converts directly or indirectly an allyl alcohol.

33. (Currently amended) The process of claim 10, wherein the at least one marker protein is

- a) a cytosine deaminase which converts directly or indirectly a 5-fluorocytosine;
- b) a cytochrome P-450 enzyme which converts directly or indirectly a proherbicide;
- c) an indoleacetic acid hydrolase which converts directly or indirectly an auxin amide compound or a naphthaleneacetamide;
- d) a haloalkane dehalogenase which converts directly or indirectly a dihaloalkane;
- e) a thymidine kinase which converts directly or indirectly Acyclovir, Ganciclovir, or 1,2-deoxy-2-fluoro- β -D-arabinofuranosil-5-iodouracil;
- f) a guanine phosphoribosyl transferase, a hypoxanthine phosphoribosyl transferase, or a xanthine guanine phosphoribosyl transferase which converts directly or indirectly a 6-thioxanthine or an allopurinol;
- g) a purine nucleoside phosphorylase which converts directly or indirectly a 6-methylpurine deoxyribonucleoside;
- h) a phosphonate monoester hydrolase which converts directly or indirectly a glycerylglyphosate;
- i) an indoleacetamide synthase and an indoleacetamide hydrolase which convert directly or indirectly an indolacetamide;
- j) an indoleacetamide hydrolase which converts directly or indirectly a naphthaleneacetamide;
- k) an adenine phosphoribosyl transferase which converts directly or indirectly a 4-aminopyrazolopyrimidine;

- I) a methoxinine dehydrogenase or a rhizobitoxin synthase which converts directly or indirectly a 2-amino-4-methoxybutanoic acid;
- m) a 5-methylthioribose kinase which converts directly or indirectly a 5-(trifluoromethyl)thioribose; or
- n) an alcohol dehydrogenase which converts directly or indirectly an allyl alcohol.

34. (Previously presented) The process of claim 10, wherein the non-endogenous marker protein is a non-plant marker protein.